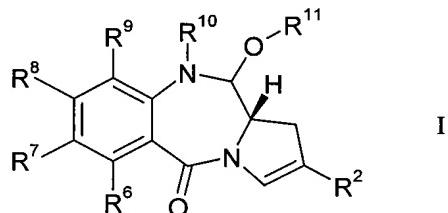


CLAIMS

1. A compound of formula I:



and salts, solvates and chemically protected forms thereof,  
wherein:

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

R<sup>7</sup> and R<sup>8</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo,

or the compound is a dimer with each monomer being of formula (I), where the R<sup>7</sup> groups or R<sup>8</sup> groups of each monomers form together a dimer bridge having the formula -X-R"-X- linking the monomers, where R" is a C<sub>3-12</sub> alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH;

or any pair of adjacent groups from R<sup>6</sup> to R<sup>9</sup> together form a group -O-(CH<sub>2</sub>)<sub>p</sub>-O-, where p is 1 or 2;

R<sup>10</sup> is a carbamate-based nitrogen protecting group;

R<sup>11</sup> is an oxygen protecting group; and

R<sup>2</sup> is a labile leaving group.

2. A compound according to claim 1, wherein R<sup>9</sup> is H.

3. A compound according to either claim 1 or claim 2, wherein R<sup>6</sup> is selected from H, OH, OR, SH, NH<sub>2</sub>, nitro and halo.

4. A compound according to any one of the preceding claims, wherein R<sup>10</sup> is Troc.

5. A compound according to any one of the preceding claims, wherein R<sup>11</sup> is a silyl oxygen protecting group or THP.

6. A compound according to any one of the preceding claims, wherein R<sup>2</sup> is triflate.

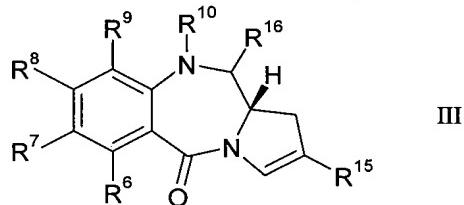
7. A compound according to any one of the preceding claims, wherein R<sup>7</sup> and R<sup>8</sup> are independently selected from H, OH, OR, SH, NH<sub>2</sub>, NHR, NRR' and halo.

8. A compound according to any one of claims 1 to 6, wherein the compound is a dimer with each monomer being of formula (I), where the R<sup>7</sup> groups or R<sup>8</sup> groups of each monomer form together a dimer bridge having the formula -O-(CH<sub>2</sub>)<sub>n</sub>-O- linking the monomers, where n is from 3 to 12.

9. A compound according to claim 8, wherein n is from 3 to 7.

10. A compound according to either claim 8 or claim 9, wherein the substituents R<sup>8</sup> join to form the dimer bridge.

11. A compound of formula III:



and salts, solvates, chemically protected forms and prodrugs thereof, wherein:

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

R<sup>7</sup> and R<sup>8</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo,

or any pair of adjacent groups from R<sup>6</sup> to R<sup>9</sup> together form a group -O-(CH<sub>2</sub>)<sub>p</sub>-O-, where p is 1 or 2;

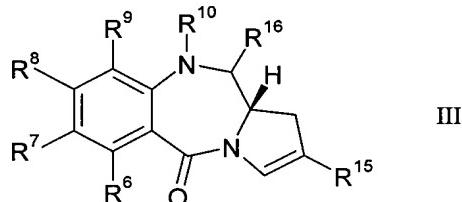
R<sup>10</sup> is a carbamate-based nitrogen protecting group; and

R<sup>16</sup> is O-R<sup>11</sup>, wherein R<sup>11</sup> is an oxygen protecting group, and R<sup>15</sup> is R.

12. A compound according to claim 11, wherein when R<sup>7</sup> and R<sup>8</sup> are OMe, R<sup>6</sup> and R<sup>9</sup> are H, and R<sup>15</sup> is R, R is selected from the group 3-methoxyphenyl, 4-biphenyl, 4-phenoxyphenyl, 3,4-methylenedioxyphenyl, trans-2-(4-methylphenyl)vinyl, trans-propenyl, 4-dimethylaminophenyl, 4-methylthiophenyl, 4-vinylphenyl, 3,4-dichlorophenyl, 4-trifluoromethylphenyl, 4-isopropylphenyl, 4-cyanophenyl, 3-pyridinyl, 4-pyridinyl, 4-formylphenyl, 4-carboxyphenyl, 2,6-dimethoxyphenyl, 4-acetanilide, 4-aminophenyl, 1-naphthyl, 5-indole, 3-aminophenyl, 2,6-difluorophenyl, 1-pyrenyl, 4-hydroxyphenyl and trans-hexenyl.

13. A compound according to either claim 11 or claim 12, wherein when R<sup>7</sup> and R<sup>8</sup> are OMe, R<sup>6</sup> and R<sup>9</sup> are H, and R<sup>15</sup> is R, R is selected from a C<sub>3-20</sub> heterocyclyl group having a nitrogen ring atom, C<sub>5-20</sub> aryl group having a nitrogen-containing substituent, or a C<sub>5-20</sub> heteroaryl group having a nitrogen ring atom or a nitrogen-containing substituent.

14. A compound of formula III:



and salts, solvates, chemically protected forms and prodrugs thereof, wherein:

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

the compound is a dimer with each monomer being of formula (I), where the R<sup>8</sup> groups of each monomer form together a dimer bridge having the formula -X-R"-X- linking the monomers, where R" is a C<sub>3-12</sub> alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH, and R<sup>7</sup> is selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo, or any pair of adjacent groups from R<sup>6</sup> to R<sup>9</sup> together form a group -O-(CH<sub>2</sub>)<sub>p</sub>-O-, where p is 1 or 2; R<sup>10</sup> is a carbamate-based nitrogen protecting group; and R<sup>16</sup> is O-R<sup>11</sup>, wherein R<sup>11</sup> is an oxygen protecting group, and R<sup>15</sup> is an optionally substituted C<sub>5-20</sub> aryl group.

15. A compound according to claim 14, wherein the dimer bridge has the formula -O-(CH<sub>2</sub>)<sub>n</sub>-O- linking the monomers, where n is from 3 to 12.

16. A compound according to claim 15, wherein n is from 3 to 7.

17. A compound according to any one of claims 14 to 16, wherein R<sup>10</sup> and R<sup>16</sup> together form a double bond between N10 and C11.

18. A compound according to any one of claims 11 to 17, wherein R<sup>9</sup> is H.

19. A compound according to any one of claims 11 to 18, wherein R<sup>7</sup> and R<sup>8</sup> are independently selected from H, OH, OR, SH, NH<sub>2</sub>, NHR, NRR' and halo.

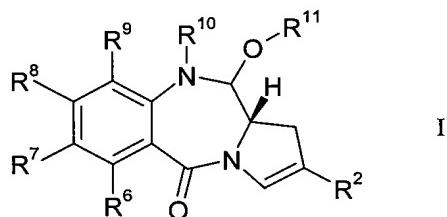
20. A compound according to any one of claims 11 to 19 for use in a method of therapy.

21. A pharmaceutical composition containing a compound of any one of claims 11 to 19, and a pharmaceutically acceptable carrier or diluent.

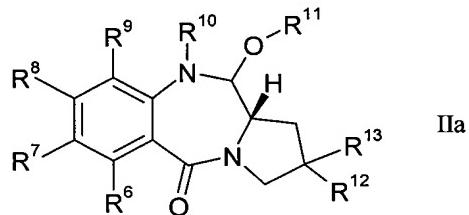
22. Use of a compound according to any one of claims 11 to 19 in the manufacture of a medicament for treating a proliferative disease.

23. A method of treatment of a proliferative disease, comprising administering to a subject in need of treatment a therapeutically-effective amount of a compound of any one of claims 11 to 19.

24. A method of synthesising a compound of formula I:



from a compound of formula IIa:



wherein:

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

R<sup>7</sup> and R<sup>8</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo,

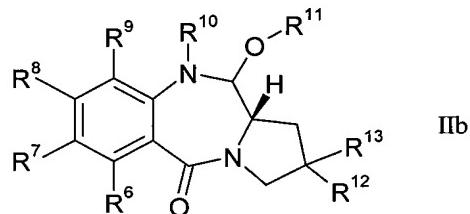
or the compound is a dimer with each monomer being of formula (I), where the R<sup>7</sup> groups or R<sup>8</sup> groups of each monomers form together a dimer bridge having the formula -X-R"-X- linking the monomers, where R" is a C<sub>3-12</sub> alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH;

or any pair of adjacent groups from R<sup>6</sup> to R<sup>9</sup> together form a group -O-(CH<sub>2</sub>)<sub>p</sub>-O-, where p is 1 or 2;

R<sup>10</sup> is a carbamate-based nitrogen protecting group;

$R^{11}$  is an oxygen protecting group;  
 $R^2$  is a labile leaving group; and  
 $R^{12}$  and  $R^{13}$  together form =O.

25. A method according to claim 24, wherein the compound of formula **IIa** is synthesised from a compound of formula **IIIb**:



wherein said compound of formula **IIIb** has  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  defined according to claim 25, and for said compound of formula **IIIb**  $R^{12}$  is  $O-R^{14}$ , and  $R^{13}$  is H; and  
 $R^{14}$  is an oxygen protecting group orthogonal to  $R^{11}$ .

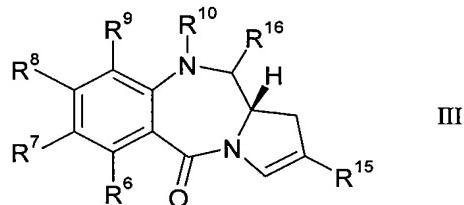
26. A method according to claim 25, wherein the compound of formula **IIa** is synthesised using an oxidation reaction performed under Swern conditions, or a method involving the TPAP or the Dess Martin reagents.

27. A method according to any one of claims 24 to 26, wherein when  $R^2$  in the compound of formula **I** is  $-OSO_2CH_3$ ,  $-OSO_2(C_nF_{2n+1})$  where  $n = 0, 1$  or  $4$ , or  $-OSO_2R^S$  where  $R^S$  is an optionally substituted phenyl group, then said compound of formula **I** is synthesised by using a treatment step with the appropriate  $R^2$  anhydride.

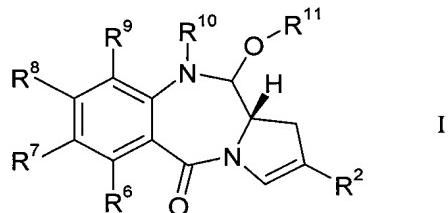
28. A method according to any one of claims 24 to 26, wherein when  $R^2$  in the compound of formula **I** is  $-I$  or  $-Br$ , then said compound of formula **I** is synthesised by using a reaction step involving hydrazine and iodine or bromine.

29. A method according to any one of claims 24 to 26, wherein when  $R^2$  in the compound of formula **I** is  $-Cl$ , then said compound of formula **I** is synthesised by using a reaction step involving phosphorous oxychloride.

30. A method of synthesising a compound of formula **III**:



from a compound of formula **I**:



wherein

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

R<sup>7</sup> and R<sup>8</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo,

or the compound is a dimer with each monomer being of formula **(I)**, where the R<sup>7</sup> groups or R<sup>8</sup> groups of each monomers form together a dimer bridge having the formula -X-R"-X- linking the monomers, where R" is a C<sub>3-12</sub> alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH;

or any pair of adjacent groups from R<sup>6</sup> to R<sup>9</sup> together form a group -O-(CH<sub>2</sub>)<sub>p</sub>-O-, where p is 1 or 2;

R<sup>10</sup> is a carbamate-based nitrogen protecting group;

R<sup>2</sup> is a labile leaving group;

R<sup>16</sup> is either O-R<sup>11</sup>, where R<sup>11</sup> is an oxygen protecting group, or OH, or R<sup>10</sup> and R<sup>16</sup> together form a double bond between N10 and C11; and

R<sup>15</sup> is R.

31. A method according to claim 30, wherein the synthesis of said compound of formula **III** uses a palladium catalysed coupling step.

**ARTICLE 34 AMENDMENTS**

32. A method according to claim 31, wherein the palladium catalyst is  $\text{Pd}(\text{PPh}_3)_4$ ,  $\text{Pd}(\text{OCOCH}_3)_2$ ,  $\text{PdCl}_2$  or  $\text{Pd}(\text{dba})_3$ .

33. A method according to either claim 31 or claim 32, wherein the coupling reaction is performed under microwave conditions.

34. A method according to any one of claims 31 to 33, wherein the palladium catalyst is solid supported.